

```
#include <stdio.h>
```

```
int main() {
```

```
    int n, m;
```

```
    printf("Enter number of memory blocks: ");
```

```
    scanf("%d", &n);
```

```
    int blockSize[n], blockAllocated[n];
```

```
    for (int i = 0; i < n; i++) {
```

```
        printf("Enter size of block %d: ", i + 1);
```

```
        scanf("%d", &blockSize[i]);
```

```
        blockAllocated[i] = 0; // 0 means free
```

```
    }
```

```
    printf("Enter number of processes: ");
```

```
    scanf("%d", &m);
```

```
    int processSize[m], allocation[m];
```

```
    for (int i = 0; i < m; i++) {
```

```
        printf("Enter size of process %d: ", i + 1);
```

```
        scanf("%d", &processSize[i]);
```

```
        allocation[i] = -1; // -1 means not allocated
```

```
    }
```

```
    // Best Fit Allocation
```

```
    for (int i = 0; i < m; i++) {
```

```
        int bestIndex = -1;
```

```
        for (int j = 0; j < n; j++) {
```

```

        if (!blockAllocated[j] && blockSize[j] >= processSize[i]) {
            if (bestIndex == -1 || blockSize[j] < blockSize[bestIndex]) {
                bestIndex = j;
            }
        }
    }

    if (bestIndex != -1) {
        allocation[i] = bestIndex;
        blockAllocated[bestIndex] = 1; // mark block as allocated
    }
}

// Display allocation results
printf("\nProcess No.\tProcess Size\tBlock Allocated\n");
for (int i = 0; i < m; i++) {
    printf("%d\t\t%d\t\t", i + 1, processSize[i]);
    if (allocation[i] != -1)
        printf("%d\n", allocation[i] + 1);
    else
        printf("Not Allocated\n");
}

return 0;
}

```

Enter number of memory blocks: 5

Enter size of block 1: 100

Enter size of block 2: 500

Enter size of block 3: 200

Enter size of block 4: 300

Enter size of block 5: 600

Enter number of processes: 2

Enter size of process 1: 212

Enter size of process 2: 112

Process No.	Process Size	Block Allocated
1	212	4
2	112	3

...Program finished with exit code 0

Press ENTER to exit console.